

V. REMARKS

Claims 1-8 are rejected under 35 USC 102 (b) as being anticipated by Arai et al. (U.S. Patent No. 5,800,147). The rejection is respectfully traversed.

In summary, it is respectfully submitted that Arai does not disclose the subject matter of the instant application.

Arai discloses a swash plate compressor having one 31 of two outlet passages 31 and 32 that is connected to discharge outlet 40 through a port 5a of a valve plate 5. Arai discloses, as stated in the office action at Column 4, line 24-32 as follows:

The cylinder block 1 is formed with a through hole 50 through which a drive shaft 7 extends, five cylinder bores 11 which are arranged at predetermined circumferentially-spaced intervals around the through hole 50 and extend longitudinally in a fashion parallel with the through hole 50, three refrigerant outlet passages 31 to 33 which extend in a fashion parallel with the cylinder bores 11, and a refrigerant inlet passage 34 through which low-pressure refrigerant flows.

The Examiner states in his Office Action on page 3, line 14-22 that:

Arai discloses that "either said first gas passage (34) or said third gas passage (31) is made to communicate with said intake port (60) to supply the working fluid into said front-side intake chamber (23a) and said rear-side intake chamber (23b); and wherein either said second gas passage (33) or said fourth gas passage (32) is made to communicate with said front-side outlet chamber (24a) and said rear-side outlet chamber (24b) and said second gas passage (33) or said fourth gas passage (32), which is not in communication with said outlet chambers, is made to communicate with said outlet port (40)."

Further, the Examiner states in the Office Action Page 5 line 1-5, that:

In Arai's compressor, passages 34 and 31 act as the refrigerant gas inlet passages, while passages 33 and 32 acts as the refrigerant gas outlet passages (Le. a total of 4 gas passages). Hence, it can be seen that either the first or third gas passage is made to communicate with the intake port 40 [60], while either the second or fourth gas passage is made to communicate with the outlet port 60 [40].

However, the gas passage 31 of Arai is an outlet passage as shown in Figs. 7 and 9 and is not connected to the intake chamber directly. An intake passage that functions as an intake passage is only passage 34, and passages 31 - 33 do not function as intake passages but function as outlet passages. Thus, it is respectfully submitted that the Examiner analysis is incorrect.

The invention of this application relates to an invention that makes it possible to use a housing having a plurality of gas channels for various models of swash plate compressors without changing the arrangements of the gas channels, so that the locations of intake and outlet passages may be easily designed. For this purpose, disposed within a housing are:

- 1) a first gas passage and a second gas passage extending along the axial direction,
- 2) a third gas passage formed substantially symmetrical to said first gas passage relative to a plane containing said drive shaft,
- 3) a fourth gas passage formed substantially symmetrical to said second gas passage relative to the plane containing said drive shaft and communicating with said second gas passage and
- 4) an external component that includes an intake port and an outlet port to be connected to piping, and either said first gas passage or said third gas passage is made to communicate with said intake port to supply the working fluid into said front-

side intake chamber and said rear-side intake chamber; and wherein either said second gas passage or said fourth gas passage is made to communicate with said front-side outlet chamber and said rear-side outlet chamber and said second gas passage or said fourth gas passage, which is not in communication with said outlet chambers, is made to communicate with said outlet port.

Thus, according to the present invention, depending on the locations of an intake port and an outlet port, a passage that functions as a intake passage that is connected to a intake port is selected from either the first gas passage 34 and the third gas passage, and both the second and fourth passages are connected and function as outlet passages. One of the passages is connected to an outlet chamber, and another of the passages is connected to an outlet port, so that flow of working fluid from the intake port to the outlet port can be selected depend on the locations of the intake port and the outlet port based on the following four combinations:

1. Intake port → first gas channel → fourth gas channel → second gas channel → outlet port;

2. Intake port → first gas channel → second gas channel → fourth gas channel → outlet port;

3. Intake port → third gas channel → fourth gas channel → second gas channel → outlet port;

4. Intake port → third gas channel → second gas channel → fourth gas channel → outlet port;

On the other hand, Arai discloses a structure where only the first gas channel 34 is an inlet channel, and the outlet channel 31 is an only channel which is "formed substantially symmetrical to said first gas passage relative to a plane containing said drive shaft." The intake channel of Arai is not connected to either channel 34 or 31. In other words, the inlet port of Arai is only connected to the channel 34 primarily. In other words, there are no two symmetrically arranged gas passages available in a

housing without changing the arrangement design of gas channels formed in the housing.

Thus the structure of the present invention and that of Arai's are totally different. If the locations of the intake port and the outlet port of the Arai is changed, the layout of the gas channels formed within the housing cannot be used without changing the gas channel layout.

Further as to claim 2, the Examiner insists as follows:

In regards to dependent Claim 2, it can be seen in Figure 9 that relay passages (R1 and R2) are formed with the first and third gas passages (34, 31) in order to communicate the swash plate chamber with the front- and rear intake chambers (23a, 23b).

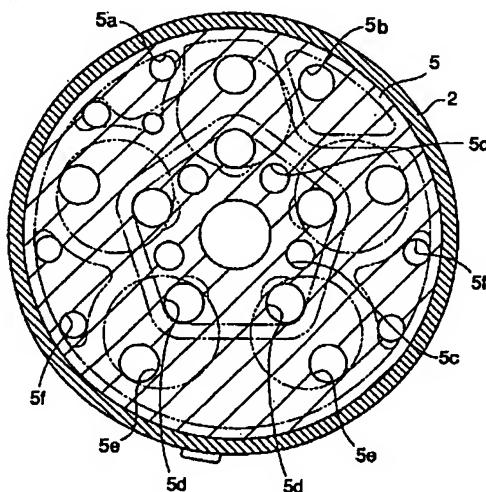
In this invention, either the first gas passage or the third gas passage is connected to the intake port, and working fluid is supplied to the front and rear side intake chambers. Thus, said first gas passage and said third gas passage communicate with said swash plate chamber and a front-side relay gas passage and a rear-side relay gas passage are also formed at said housing to communicate between said swash plate chamber and said front-side intake chamber and between said swash plate chamber and said rear-side intake chamber. On the other hand, since Arai does not suggest selection of a channel that is connected to the intake port, the channel 31 of Arai is the outlet channel that is only connected to the outlet port, and is NOT communicated with the swash plate chamber.

Further, with regard to claim 3, since a valve plate... inserted between the cylinder block and the cylinder head... constitutes a part of components forming said first through fourth gas passages, through holes 31a, 31b that constitute the first gas passage and the second gas passage extending along the axial direction" are formed almost symmetrically, and further through holes 32a, 32b that constitute the third gas

passage and the fourth gas passage extending along the axial direction are also formed almost symmetrically.

On the other hand, as shown in the cross-sectional view of valve plate of Fig. 11 (E-E cross section of Fig. 9) of Arai below, the through hole 5a formed at the valve plate is facing to the outlet port 40, the through hole 5b is facing to the intake port 60 (column 5, lines 8-15). No through holes that are symmetrically arranged corresponding to symmetrically arranged intake channels are disclosed. No symmetrical arrangement of the holes is disclosed. Thus the change of intake port cannot be easily made.

FIG.11



Accordingly, the compressor of this invention is totally different from the one disclosed in Arai. The gas channel arrangement of Arai compressor cannot be used without change of the arrangement when arrangement of the intake port or the outlet port is changed.

Since claim 4 is dependent from claim 1-3. Thus claim 4 is patentable for the same reason set forth above.

Withdrawal of the rejection is respectfully requested.

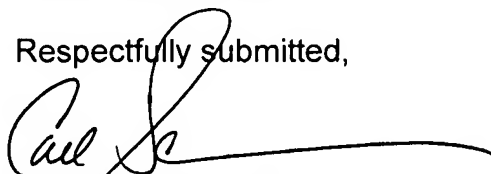
It is respectfully submitted that the pending claims are believed to be in condition for allowance over the prior art of record. Therefore, this Amendment is believed to be a complete response to the outstanding Office Action. Further, Applicants assert that there are also reasons other than those set forth above why the pending claims are patentable. Applicants hereby reserve the right to set forth further arguments and remarks supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers.

In view of the foregoing, reconsideration of the application and allowance of the pending claims are respectfully requested. Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' representative at the telephone number listed below.

Should additional fees be necessary in connection with the filing of this paper or if a Petition for Extension of Time is required for timely acceptance of the same, the Commissioner is hereby authorized to charge Deposit Account No. 18-0013 for any such fees and Applicant(s) hereby petition for such extension of time.

Respectfully submitted,

By:



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